

Multiple Wells, One Aquifer

How to show many wells draw from the same aquifer

June 2006

DOH PUB. #331-235 (Rev.)

Public water systems that can show multiple disinfected wells draw water from the same aquifer may qualify for fewer required samples. To apply, systems must submit a technical report to the state Department of Health Office of Drinking Water (ODW).

If ODW approves the report, the system may submit fewer total trihalomethane and haloacetic acid distribution system samples. The number of required samples depends, in part, on the number of treatment plants the system uses.

The technical report

Using a single parameter or data set, it is difficult to find out if wells draw from the same aquifer. A water system should try to gather all information identified in this fact sheet. If that is not possible the technical report should include a note on data that isn't available.

The technical report must:

- Present a clear and defensible position that, with reasonable certainty, a specified group of wells draws from the same aquifer.
- Show water from the specified group of wells has similar traits and is expected to form disinfection byproducts in the same way.
- Be written by a hydrogeologist, professional engineer with hydrogeological experience, or other professional competent in the field of hydrogeology.
- Summarize and evaluate the following and other data relevant for ODW review and approval.

Well construction and geology

- Topographical maps showing wells considered to draw from the same aquifer.
- Well depths.
- Well logs showing geological strata, water production zones, screened or slotted areas, and protections (such as grouting used to seal the space around the well casing). Include wells proposed for grouping and any known wells in the same general area.
- Static water levels relative to mean sea level or other appropriate reference point.
- Aquifer studies, including maps.
- Any treatment applied to the sources.

Water characteristics and chemistry of each well

- Field temperatures.
- Specific conductivity.
- Total organic carbon levels.
- Analyses of select ions that reflect similar water quality among the wells (calcium, magnesium, iron, manganese, sodium, sulfate, alkalinity, chloride).
- Values for the maximum total trihalomethane formation potential.

Process

Systems may submit their technical reports to their ODW regional office with their disinfectants and disinfection byproducts monitoring plan. ODW charges a fee for reviewing the report. Approval is based upon how well the system addresses the information outlined in this fact sheet.

For more information

Eastern Region (509) 456-3115

Northwest Region (253) 395-6750

Southwest Region (360) 664-0768

